

Southeast Region Stock of Concern and Action Plan Review



Steve Heint and Ed Jones

Oral Report RC – 3, Tab – 14

Written Reports:

- Unuk and Chickamin River King Salmon Action Plan – RC 4**
- Klukshu River Sockeye Salmon Action Plan – RC 5**
- NSEA King Salmon Action Plan – RC 6**
- Stikine River and Andrew Creek King Salmon Action Plan – RC 7**
- ADF&G Chinook Origins Memo – RC 8**

Definition of Key Terms

Stock of Concern: Stock with a yield, management, or conservation concern.

Management Concern: Chronic inability, despite management measures, to meet escapement goals.

Chronic Inability: 4–5 year period.

Action Plan: Board and department develop goals and management actions to restore stocks to historical productivity.

Stock of Concern (SOC) Designation Process

What has happened:

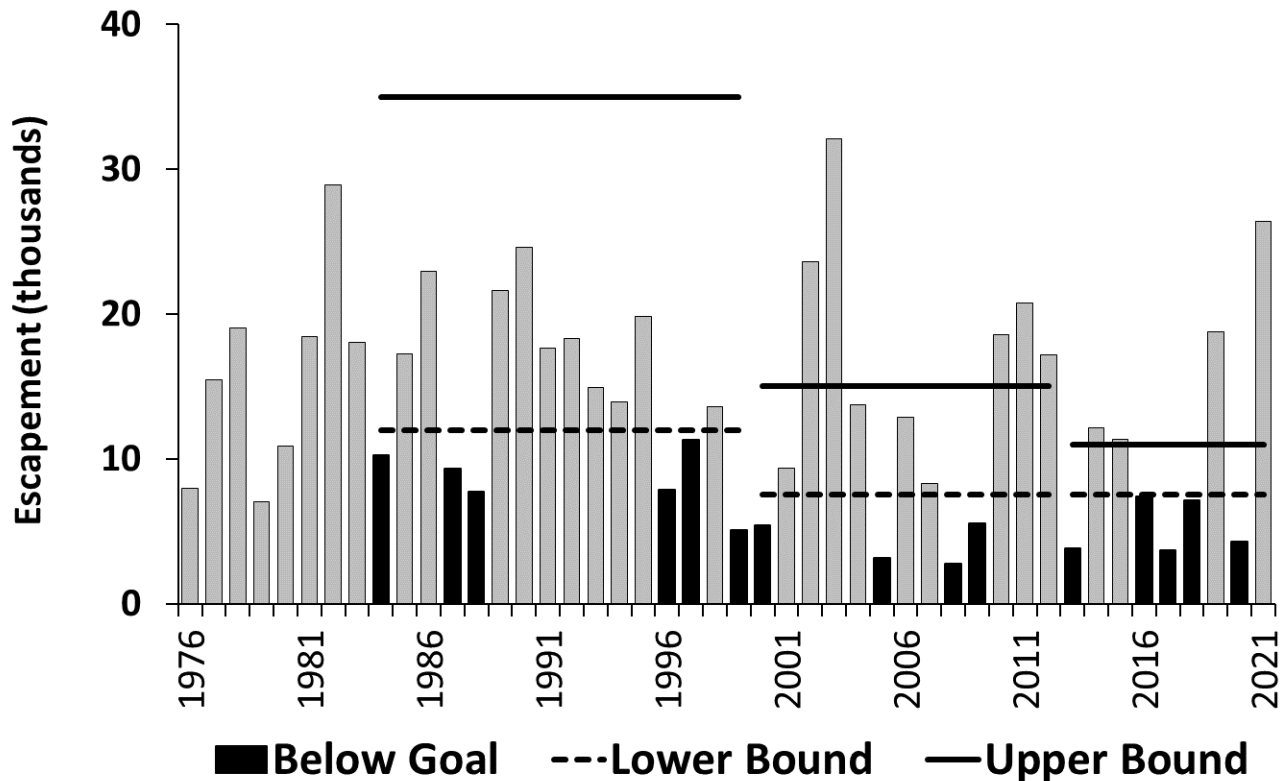
- 1-Dept reviewed escapement goals.
- 2-Dept recommended SOC status.
- 3-Board reviewed and adopted SOC status.
- 4-Department drafted Action Plan.

What will happen:

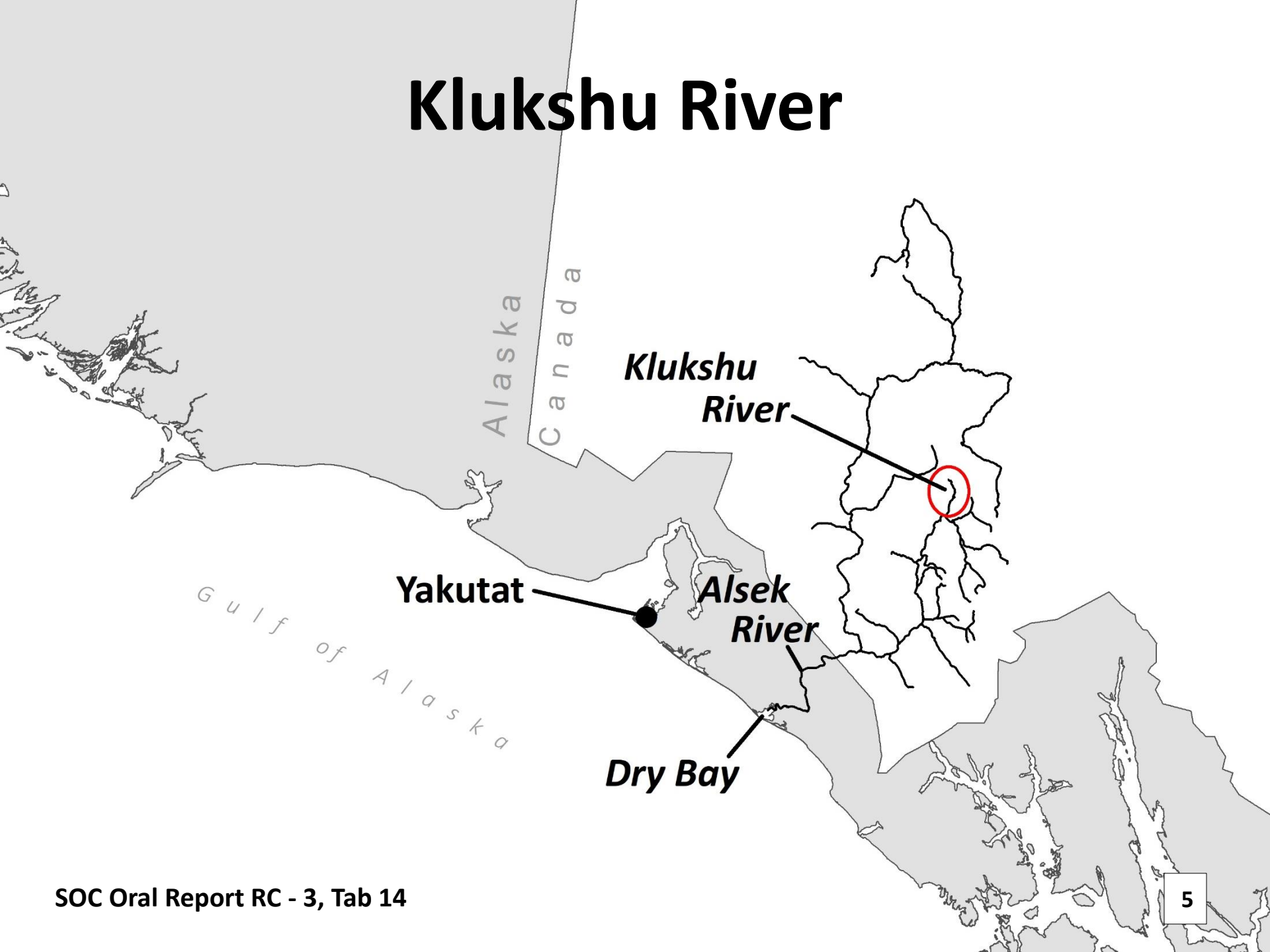
- 1-Board and department will review Action Plan.
- 2-Board may take regulatory action.
- 3-Action Plan will be finalized by the board and implemented by the department.

Klukshu River Sockeye Salmon Stock Status and Action Plan

- Designated a stock of concern – 2020 BOF work session.
- BEG: 7,500–11,000 fish.



Klukshu River



Klukshu River Action Plan:

Action Plan Recommendation:

- Manage in accordance with Pacific Salmon Treaty and the *United States-Canada Salmon Management Plan* (5 AAC 33.361).

Remove the SOC designation:

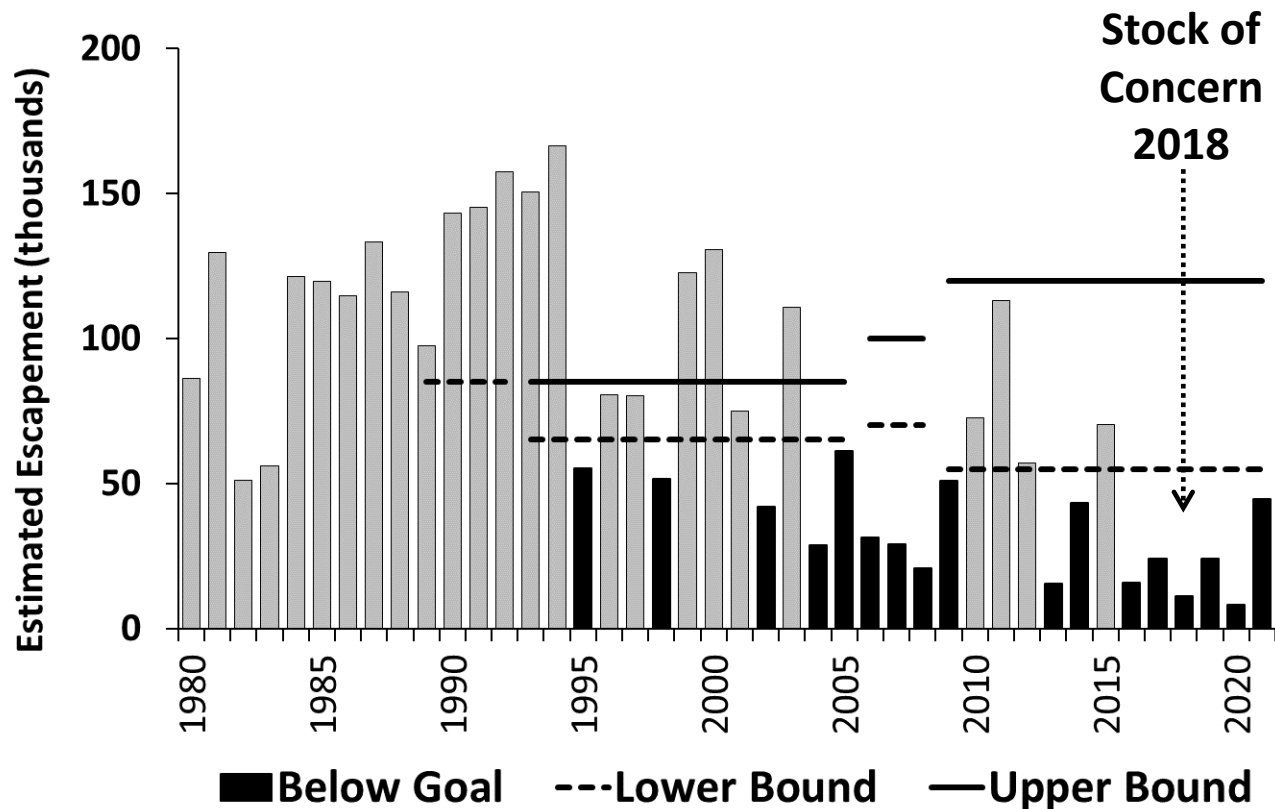
- When the BEG range is met or exceeded in 3 consecutive years or is met or exceeded in 4 of 6 consecutive years.

Regulatory proposals:

- None.

McDonald Lake Sockeye Salmon UPDATE

- Designated a stock of concern in 2018.
- SEG: 55,000–120,000 fish.



McDonald Lake Sockeye Salmon UPDATE

- Designated a stock of concern in 2018.
- SEG: 55,000–120,000.

Year	Commercial Harvest	Harvest Rate	Personal Use Harvest	Escapement	Total Run
2014	46,000	50%	1,696	43,400	91,100
2015	65,600	48%	1,545	70,200	137,300
2016	26,600	62%	1,002	15,600	43,200
2017	8,500	26%	646	24,000	33,200
2018	2,200	16%	449	11,000	13,700
2019	11,000	31%	404	24,200	35,600
2020	3,400	28%	244	8,200	11,800
2021	26,000	37%	397	44,500	70,900

McDonald Lake Sockeye Salmon UPDATE

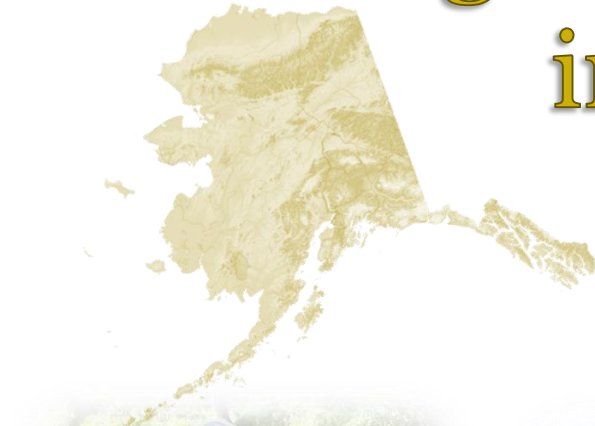
- Designated a stock of concern in 2018.
- SEG: 55,000–120,000.

Year	Commercial Harvest	Harvest Rate	Personal Use Harvest	Escapement	Total Run
2014	46,000	50%	1,696	43,400	91,100
2015	65,600	48%	1,545	70,200	137,300
2016	26,600	62%	1,002	15,600	43,200
2017	8,500	26%	646	24,000	33,200
2018	2,200	16%	449	11,000	13,700
2019	11,000	31%	404	24,200	35,600
2020	3,400	28%	244	8,200	11,800
2021	26,000	37%	397	44,500	70,900

King Salmon Stocks of Concern in Southeast Alaska

Alaska Board of Fisheries,
Ketchikan, Alaska

January 2021



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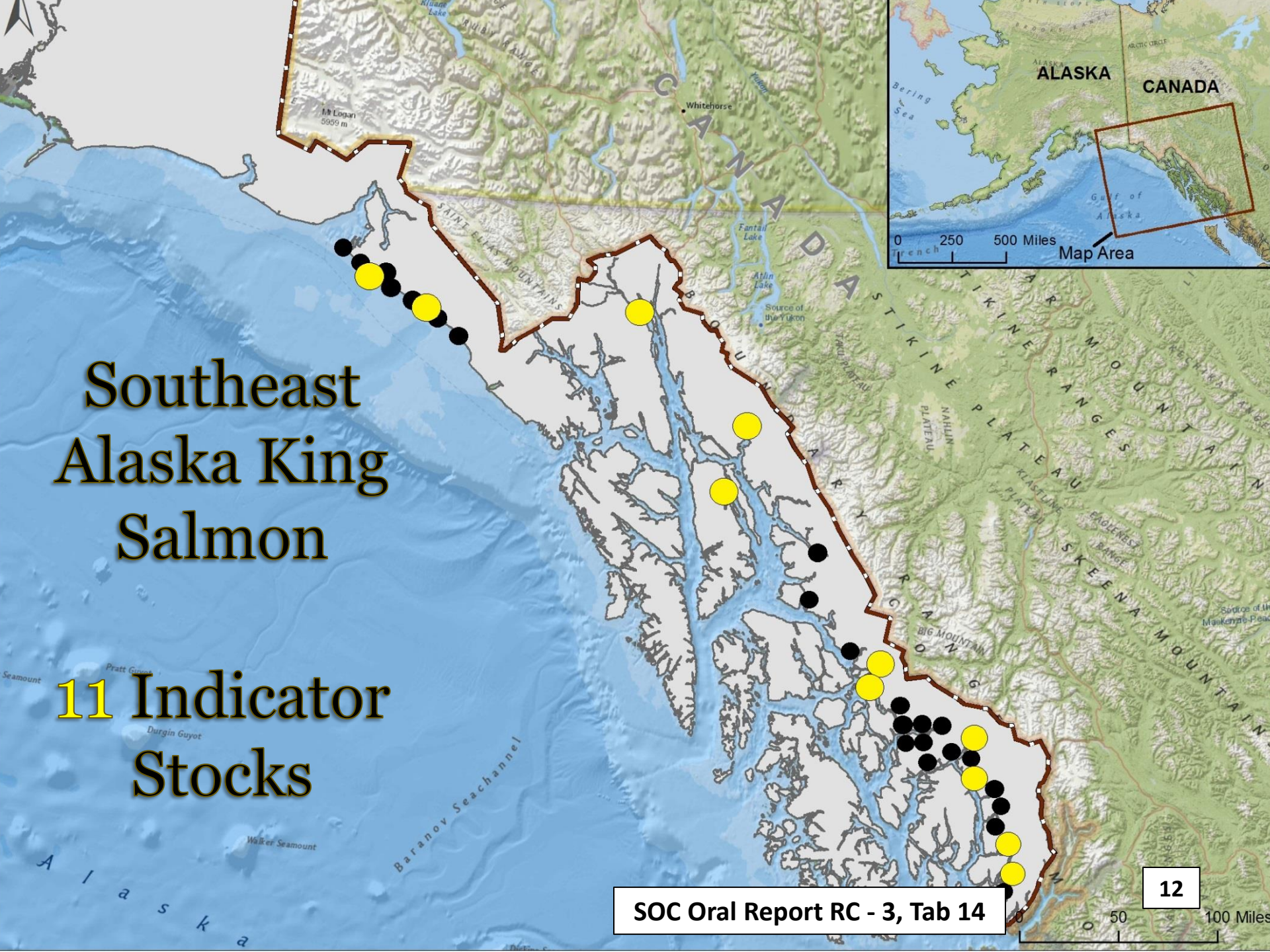
Southeast Alaska King Salmon

34 Stocks

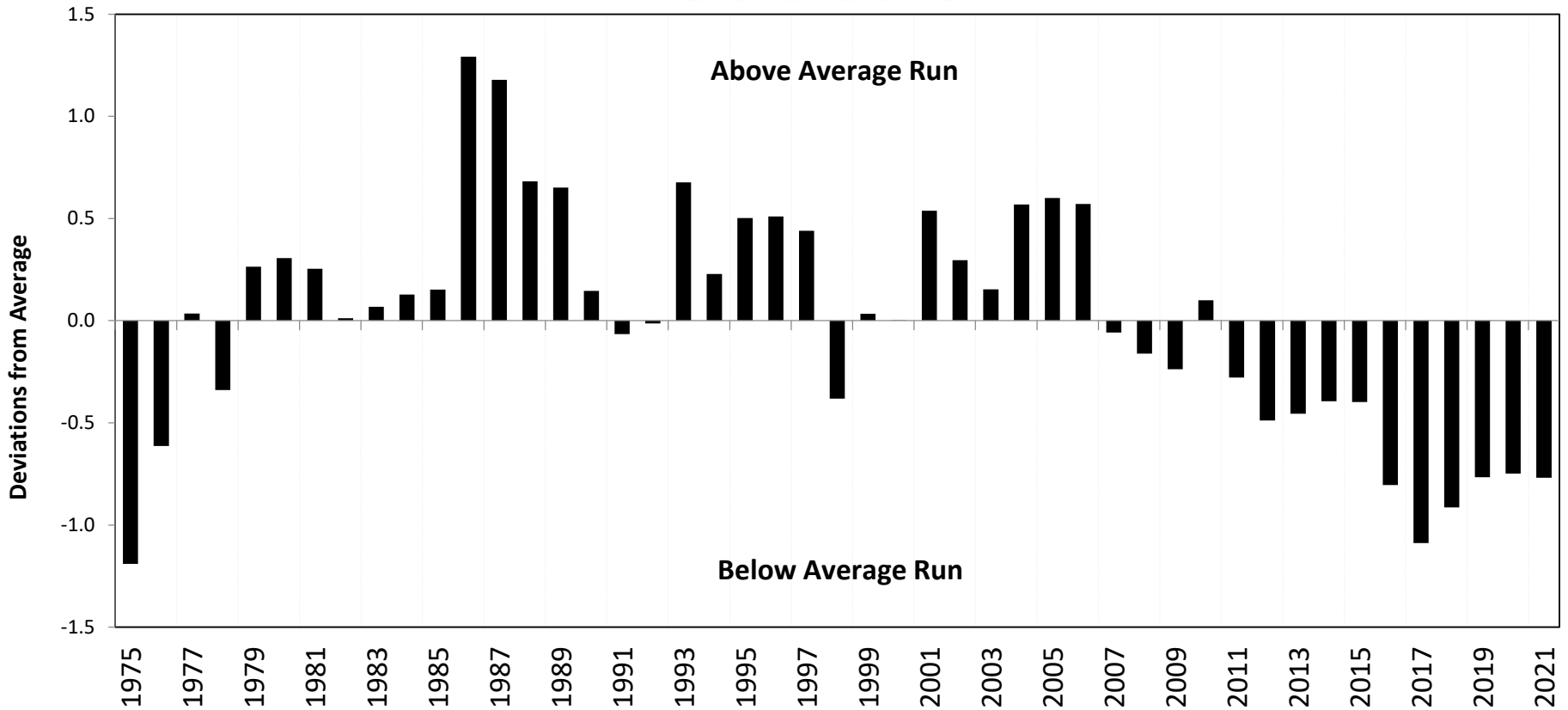


Southeast Alaska King Salmon

11 Indicator Stocks



Southeast Alaska King Salmon Production



**In Southeast Alaska, production is at unprecedented low levels
(11 indicator stocks in Southeast Alaska)**

Southeast Alaska King Salmon Escapements

Stock	Goal		2013	2014	2015	2016	2017	Goal
	Lower	Upper						Missed
Situk	450	1,050	912	475	174	329	1,187	2
Alsek	3,500	5,300	4,992	3,357	5,697	2,514	1,762	3
Chilkat	1,750	3,500	1,719	1,529	2,452	1,380	1,173	4
Taku	19,000	36,000	18,002	23,532	23,567	9,177	8,214	3
King Salmon	120	240	94	68	50	149	85	4
Stikine	14,000	28,000	16,784	24,374	21,597	10,554	7,335	2
Andrew	650	1,500	920	1,261	796	402	349	2
Unuk	1,800	3,800	1,135	1,691	2,623	1,463	1,203	4
Chickamin	2,150	4,300	2,223	3,097	2,760	964	722	2
Blossom	500	1,400	987	840	642	522	341	1
Keta	550	1,300	1,484	1,321	915	1,342	903	0

At the October 2017 BOF work session, the board designated 3 king salmon stocks as a Stock of Management Concern

Southeast Alaska King Salmon



Chilkat River

King Salmon River

Unuk River

Southeast Alaska King Salmon Escapements

Stock	Goal		2016	2017	2018	2019	2020	Goal Missed
	Lower	Upper						
Situk	450	1,050	329	1,187	420	623	1,197	2
Alsek	3,500	5,300	2,514	1,762	4,312	6,400	5,308	2
Chilkat	1,750	3,500	1,380	1,173	873	2,028	3,180	3
Taku	19,000	36,000	9,177	8,214	7,271	11,558	15,593	5
King Salmon	120	240	149	85	30	27	100	4
Stikine	14,000	28,000	10,554	7,335	8,603	13,817	9,753	5
Andrew	650	1,500	402	349	482	698	470	4
Unuk	1,800	3,800	1,463	1,203	1,971	3,115	1,135	3
Chickamin	2,150	4,300	964	722	2,052	1,610	2,280	4
Blossom	500	1,400	522	341	1,087	557	515	1
Keta	550	1,300	1,342	903	1,662	1,041	668	0

At the October 2020 BOF work session, the board designated an additional 4 king salmon stocks as a Stock of Management Concern

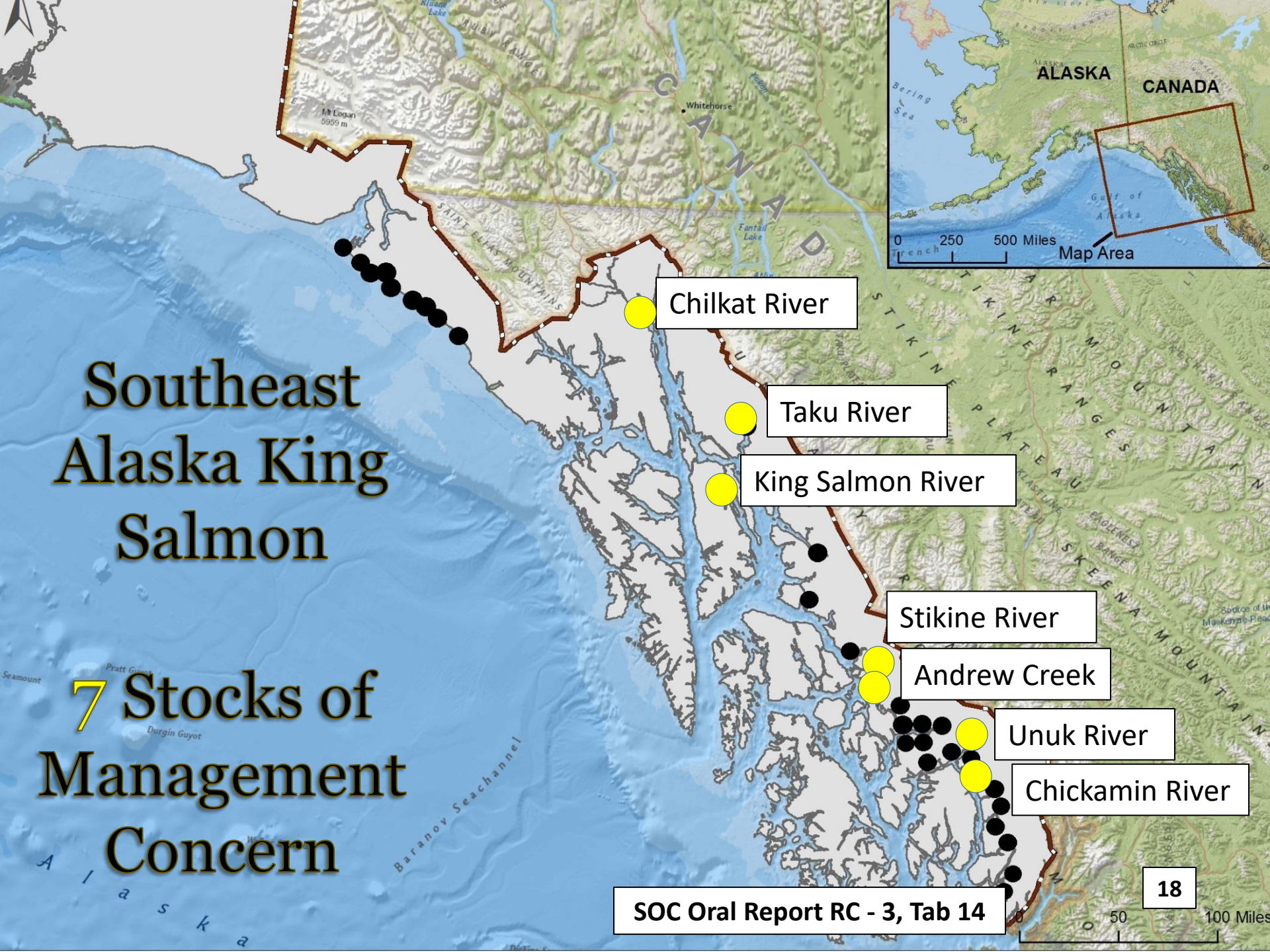
Southeast Alaska King Salmon Escapements

Stock	Goal		2016	2017	2018	2019	2020	Goal
	Lower	Upper						Missed
Situk	450	1,050	329	1,187	420	623	1,197	2
Alsek	3,500	5,300	2,514	1,762	4,312	6,400	5,308	2
Chilkat	1,750	3,500	1,380	1,173	873	2,028	3,180	3
Taku	19,000	36,000	9,177	8,214	7,271	11,558	15,593	5
King Salmon	120	240	149	85	30	27	100	4
Stikine	14,000	28,000	10,554	7,335	8,603	13,817	9,753	5
Andrew	650	1,500	402	349	482	698	470	4
Unuk	1,800	3,800	1,463	1,203	1,971	3,115	1,135	3
Chickamin	2,150	4,300	964	722	2,052	1,610	2,280	4
Blossom	500	1,400	522	341	1,087	557	515	1
Keta	550	1,300	1,342	903	1,662	1,041	668	0

In total, 7 king salmon stocks in Southeast Alaska are currently designated as a Stock of Management Concern

Southeast Alaska King Salmon

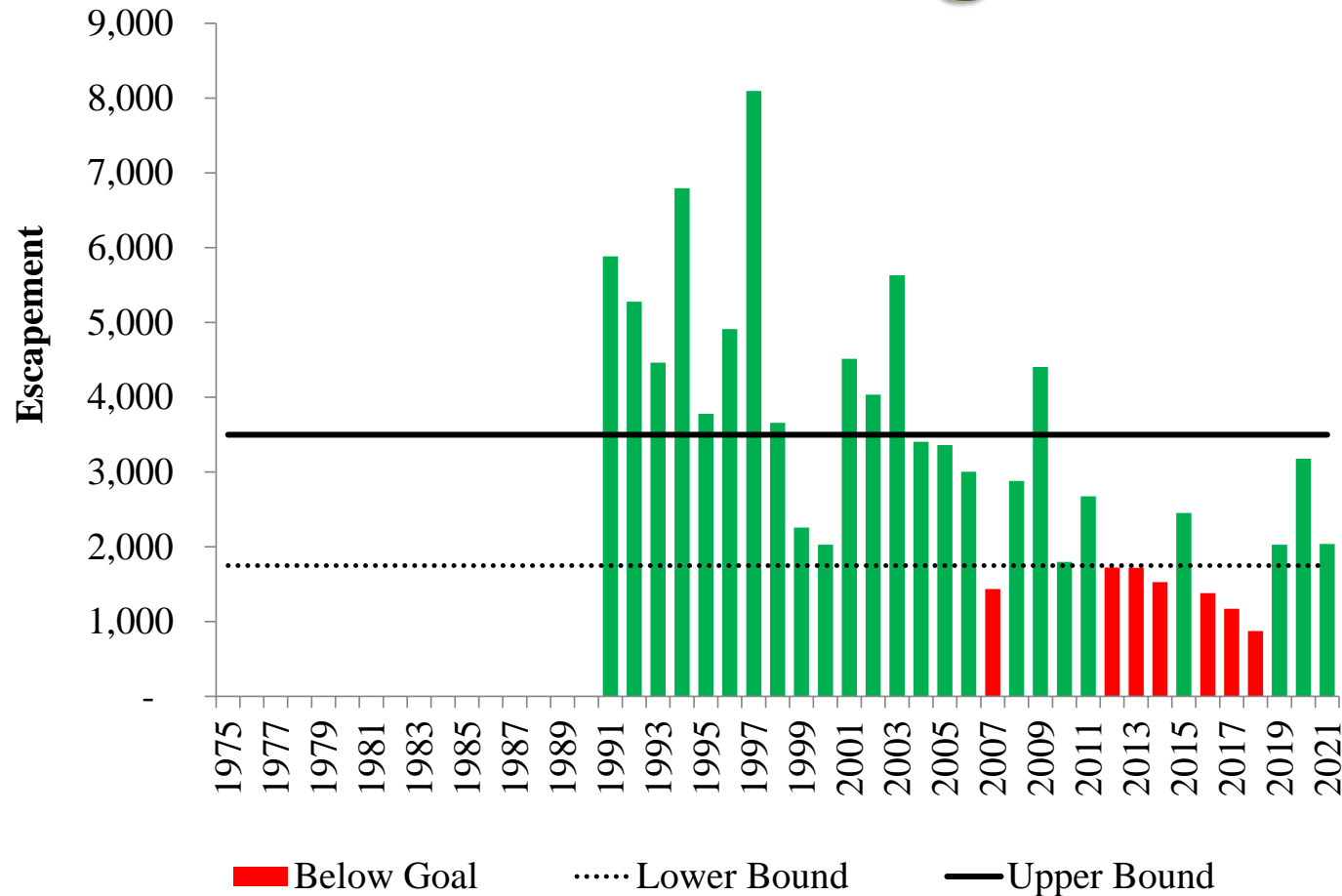
7 Stocks of Management Concern



Specific Details for the Southeast Alaska King Salmon Stocks of Management Concern



Chilkat River King Salmon



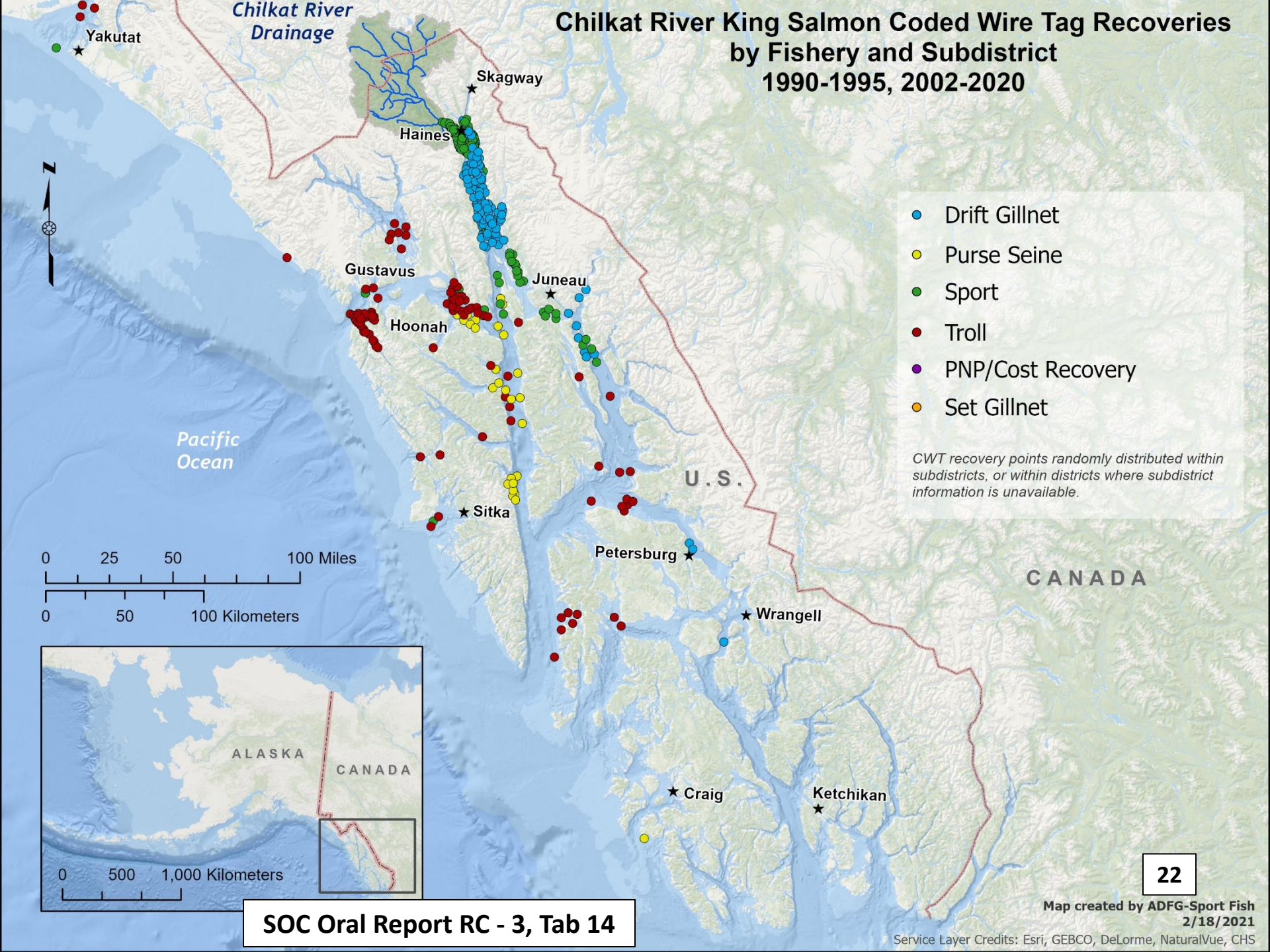
Designated a Stock of Management Concern at the October 2017 work session as escapements were below goal in 4 of 5 years, 2013 to 2017.

Recommended continuing designation at the October 2020 work session as escapements were below goal in 3 of 5 years, 2016 to 2020.

Chilkat River King Salmon

- Inside rearing and available for harvest in Southeast throughout the year
- Fifth largest run of king salmon in Southeast; annual estimates of escapement using mark-recapture methodology
- Around 5-10% of the juveniles are coded wire tagged and harvest is estimated using marine recoveries and genetic stock identification
- Detailed estimates of smolt abundance, juvenile overwinter survival, marine survival, and brood year return and exploitation rates
- Half the spawning escapement is inriver by July 4

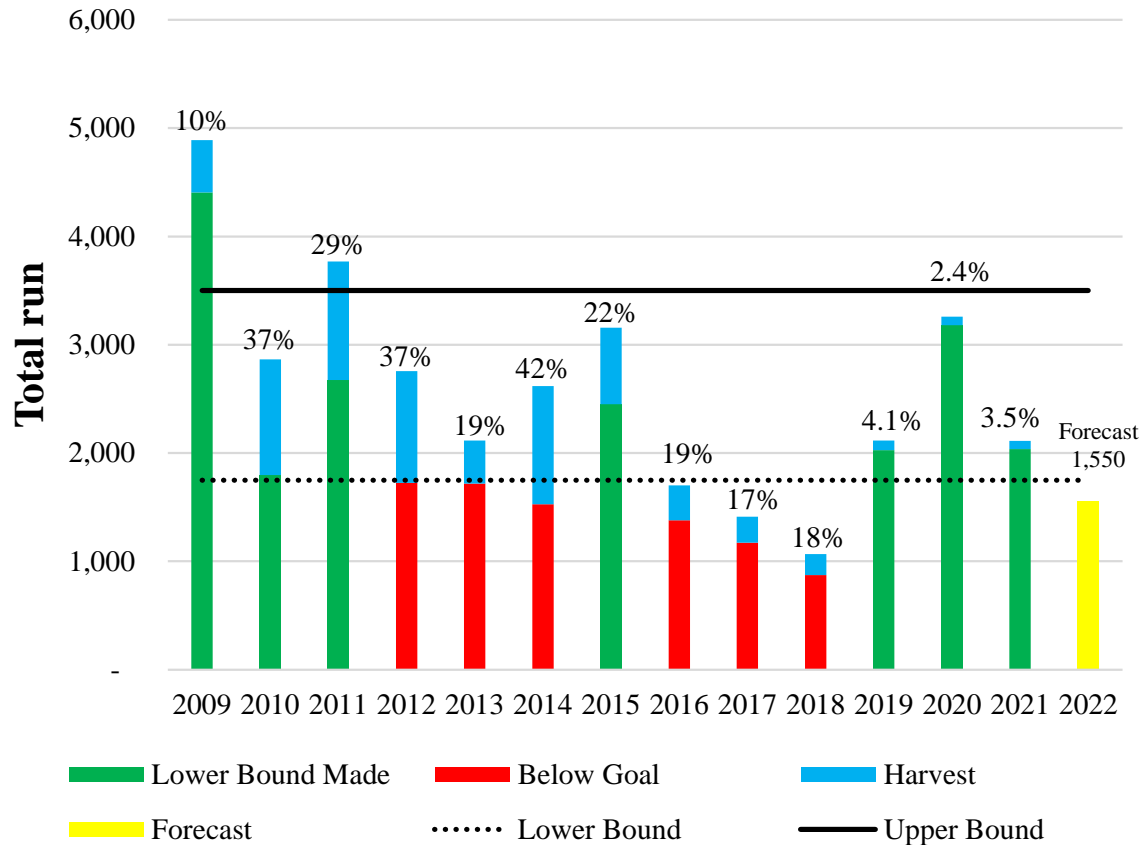
Chilkat River King Salmon Coded Wire Tag Recoveries by Fishery and Subdistrict 1990-1995, 2002-2020



- Drift Gillnet
- Purse Seine
- Sport
- Troll
- PNP/Cost Recovery
- Set Gillnet

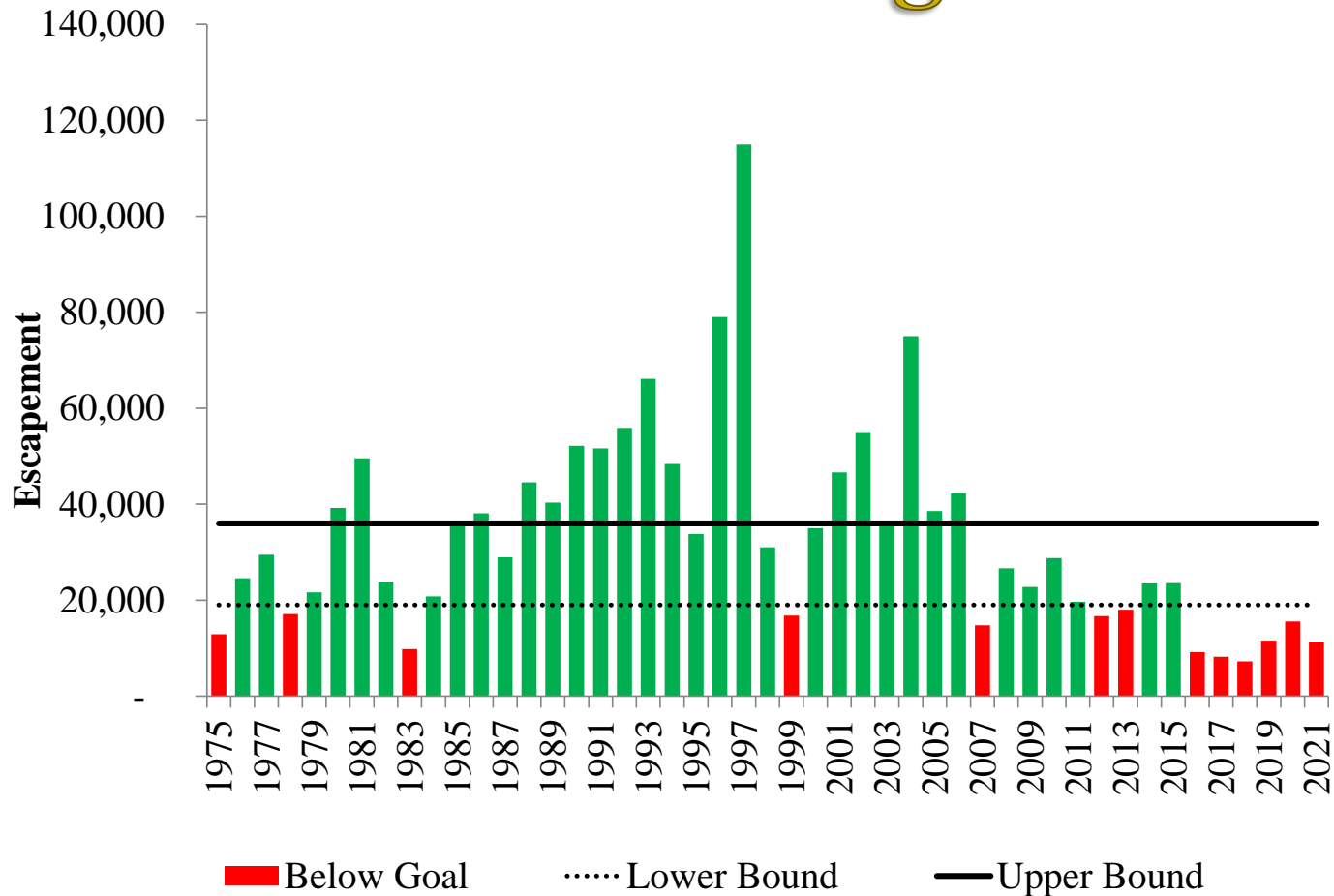
CWT recovery points randomly distributed within subdistricts, or within districts where subdistrict information is unavailable.

Chilkat River King Salmon



Harvest, escapement, and run of Chilkat River king salmon, 2009-2021, with the run forecast for 2022. Harvest rate is shown as a percent for each year.

Taku River King Salmon

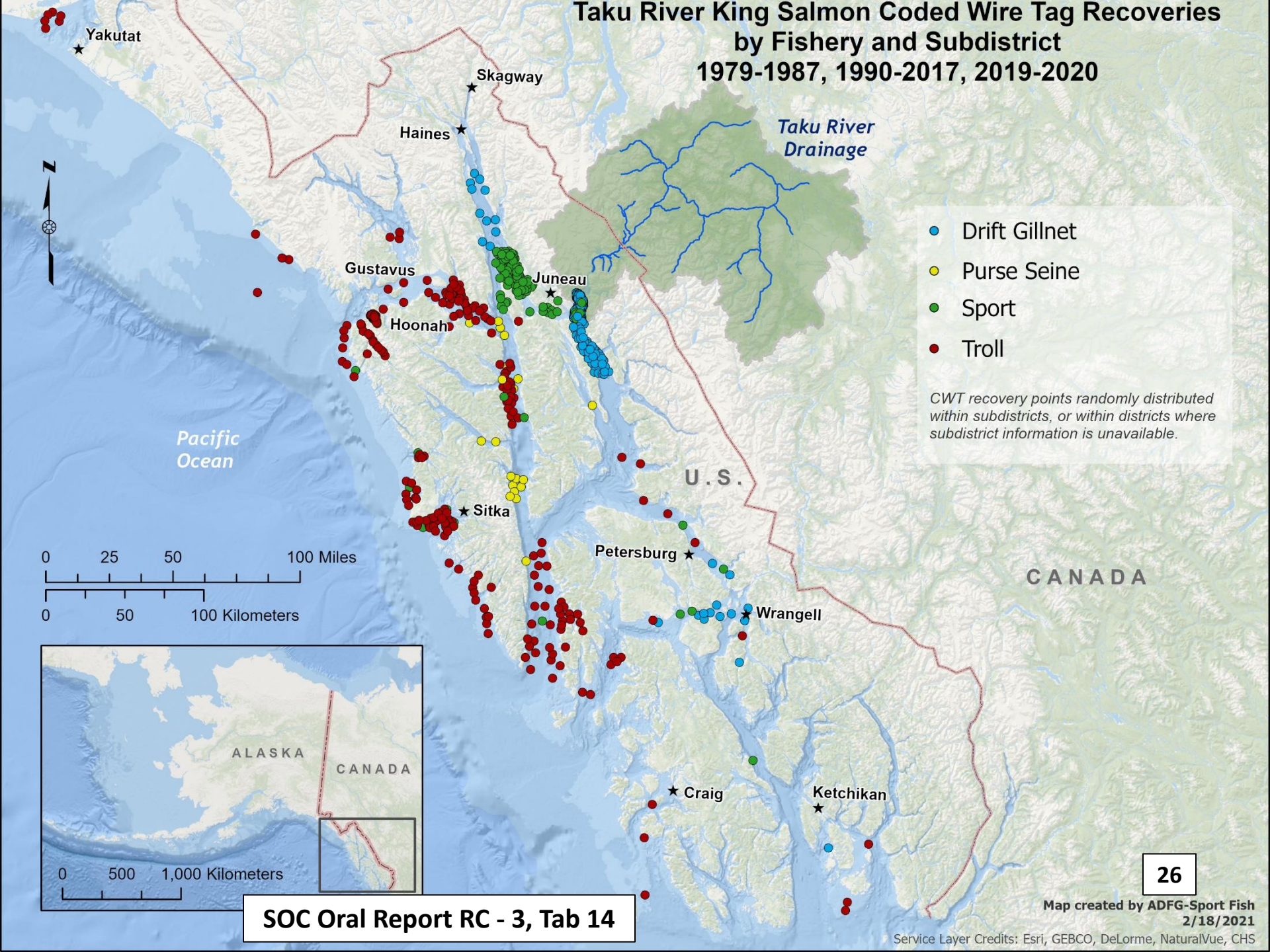


Designated a Stock of Management Concern at the October 2020 work session as escapements were below goal in 5 straight years, 2016 to 2020.

Taku River King Salmon

- **Transboundary River stock and management actions are outlined in annual, bilateral Pacific Salmon Commission management plans developed prior to each fishing season**
- **The largest run of king salmon in Southeast Alaska; strictly outside rearing and available for harvest in Southeast only March through July**
- **Standardized aerial observer counts since 1973; mark-recapture estimates of escapement preferred method and were used to ground truth the observer counts which serve as a backup in the event the mark-recapture method fails**
- **Around 1-4% of the juveniles are coded wire tagged and harvest is estimated using coded wire tag and genetic stock identification methodologies; detailed estimates of smolt abundance, marine survival, and brood year return and exploitation rates**
- **Half the spawning escapement is inriver by third week of May**

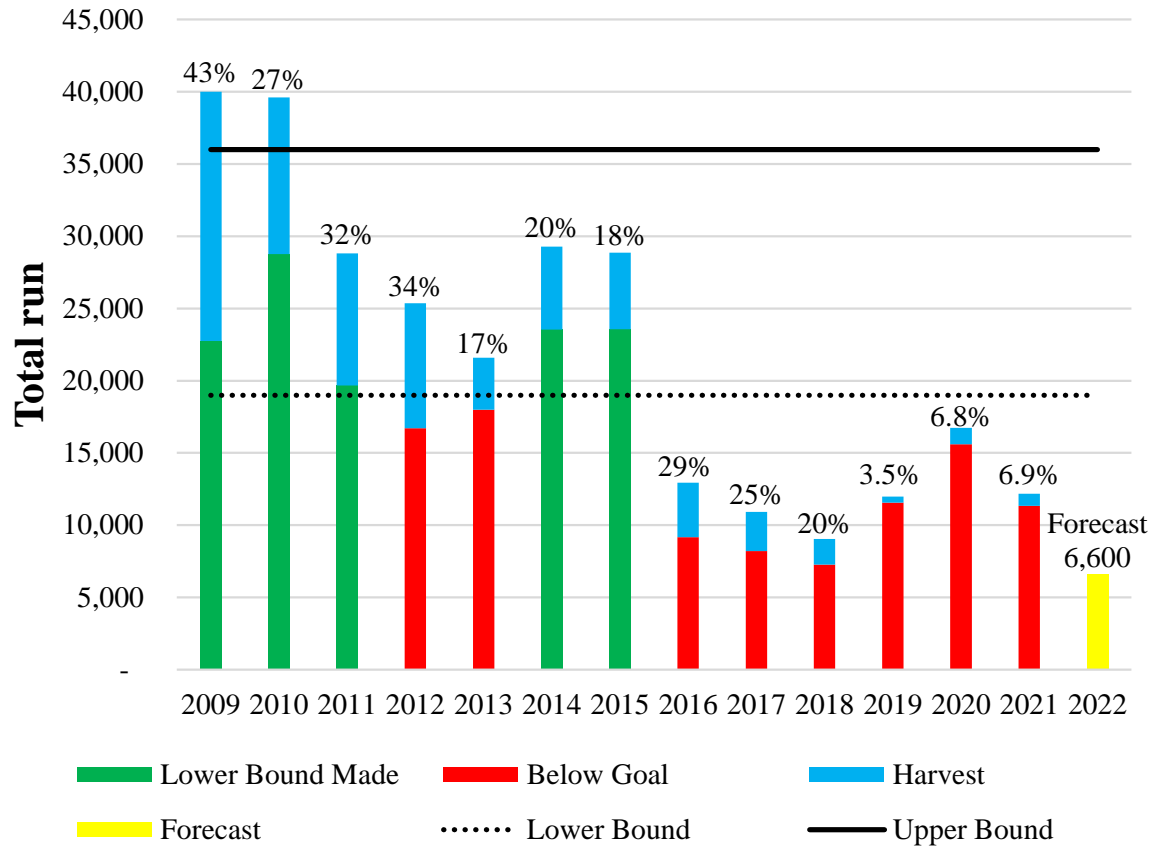
Taku River King Salmon Coded Wire Tag Recoveries by Fishery and Subdistrict 1979-1987, 1990-2017, 2019-2020



- Drift Gillnet
- Purse Seine
- Sport
- Troll

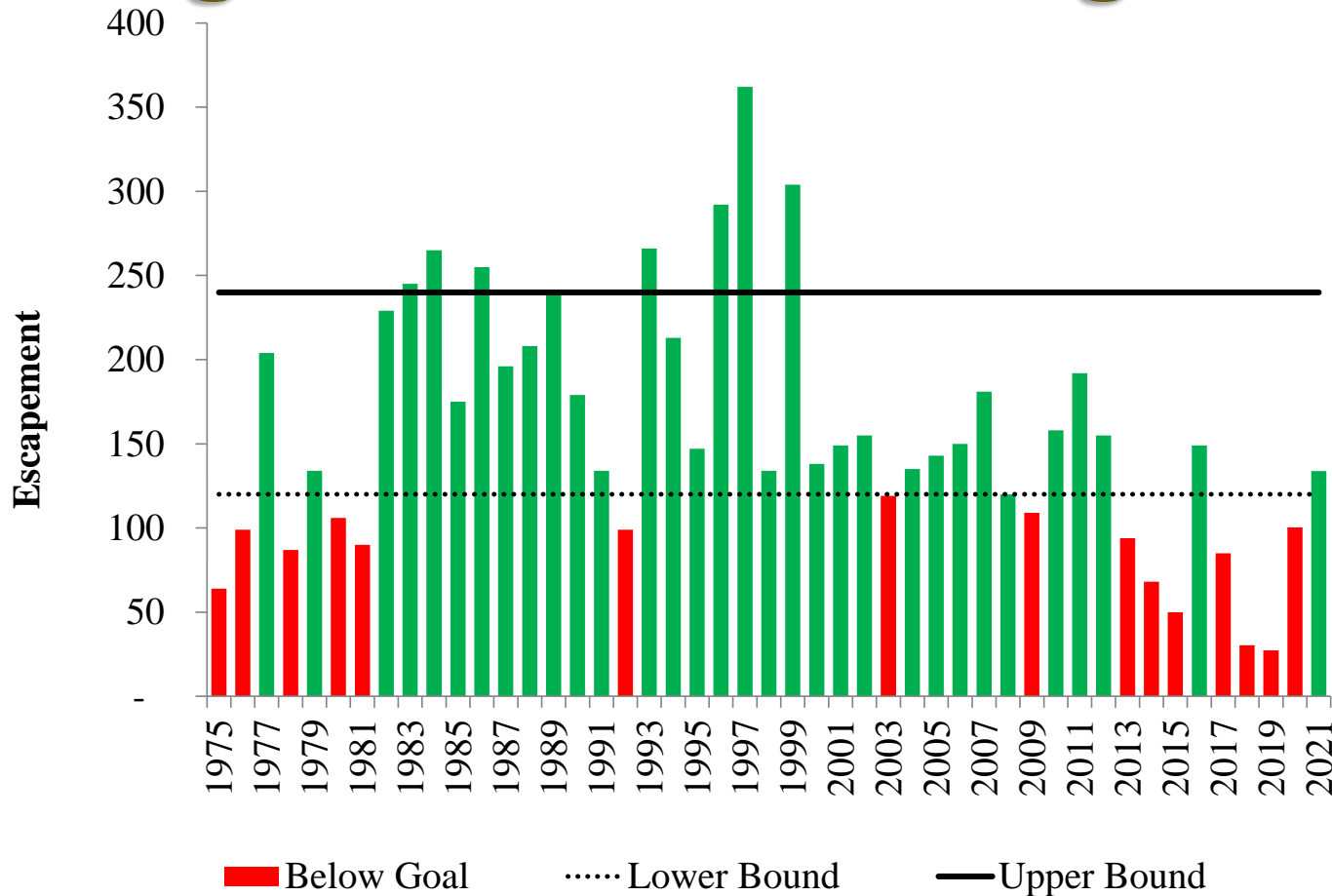
CWT recovery points randomly distributed within subdistricts, or within districts where subdistrict information is unavailable.

Taku River King Salmon



Harvest, escapement, and run of Taku River king salmon, 2009-2021, with the terminal run forecast for 2022. Harvest rate is shown as a percent for each year.

King Salmon River King Salmon



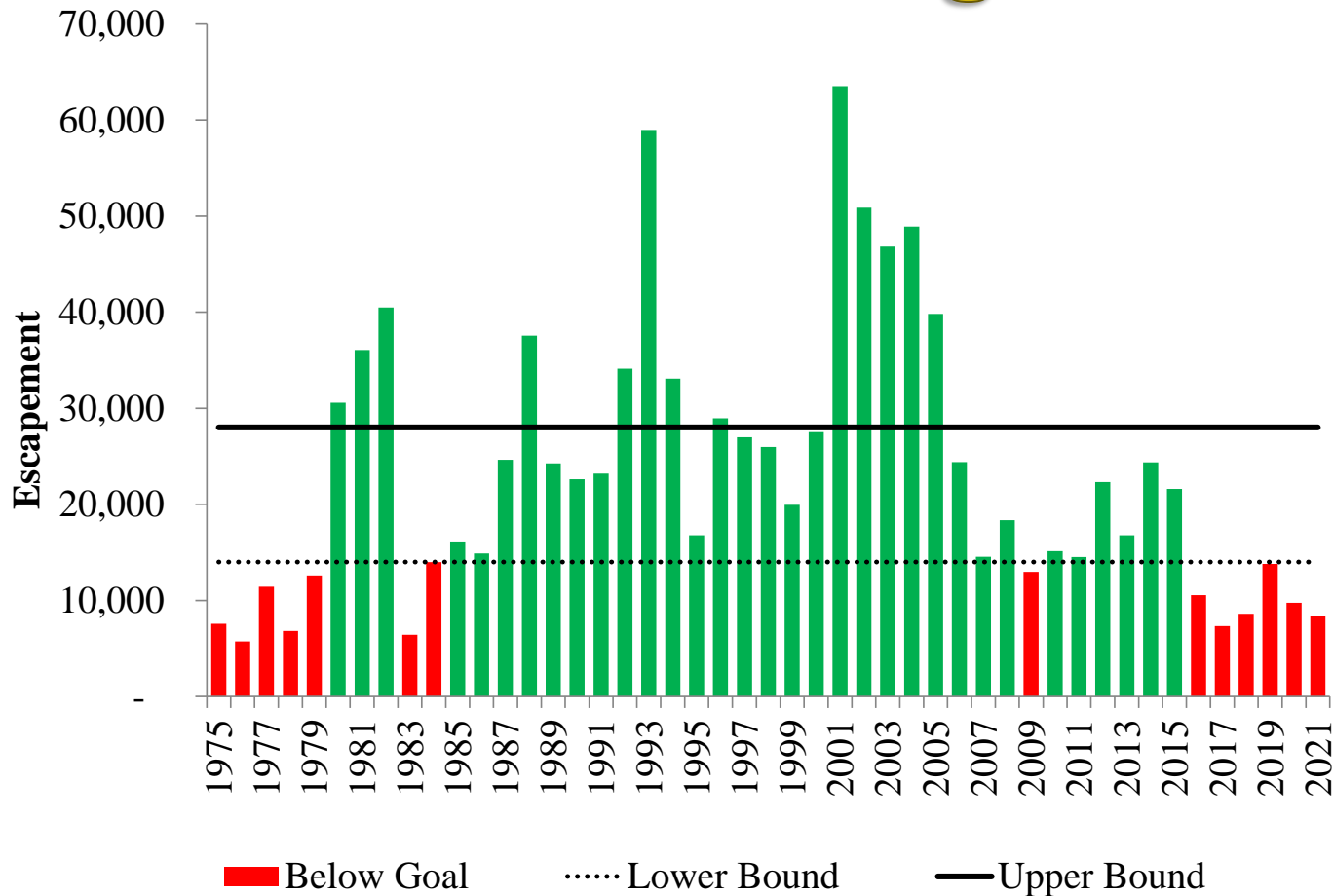
Designated a Stock of Management Concern at the October 2017 work session as escapements were below goal in 4 of 5 years, 2013 to 2017.

Recommended continuing designation at the October 2020 work session as escapements were below goal in 4 of 5 years, 2016 to 2020.

King Salmon River King Salmon

- Only island population of king salmon in Southeast
- Inside rearing and available for harvest in Southeast throughout the year
- Standardized observer counts since 1975 and a weir was operated for 10 concurrent years to ground truth the observer counts
- Harvest estimates are not available for this stock
- It is assumed that half the spawning escapement is inriver by the first week of July

Stikine River King Salmon

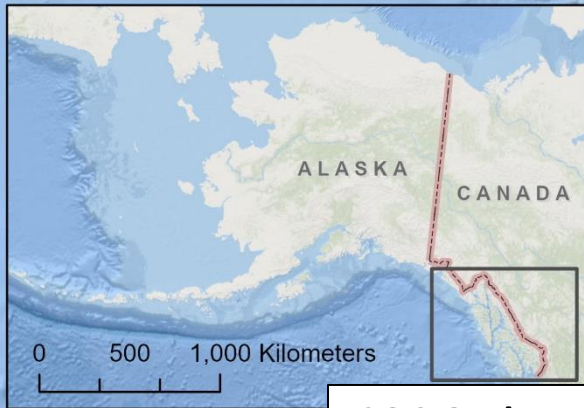
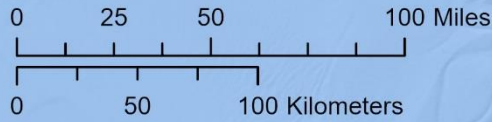


Designated a Stock of Management Concern at the October 2020 work session as escapements were below goal in 5 straight years, 2016 to 2020.

Stikine River King Salmon

- **Transboundary River stock and management actions are outlined in annual, bilateral Pacific Salmon Commission management plans developed prior to each fishing season**
- **Second largest run of king salmon in Southeast Alaska; strictly outside rearing and available for harvest in Southeast only March through July**
- **Annual estimates of escapement using mark-recapture**
- **Around 1-4% of the juveniles are coded wire tagged and harvest is estimated using coded wire tag and genetic stock identification; detailed estimates of smolt abundance, marine survival, and brood year return and exploitation rates**
- **Half the spawning escapement is inriver by first week of June**

Stikine River Chinook Salmon Coded Wire Tag Recoveries by Fishery and Subdistrict 1979, 1982-1986, 2003-2020



Pacific Ocean

Stikine River
Drainage

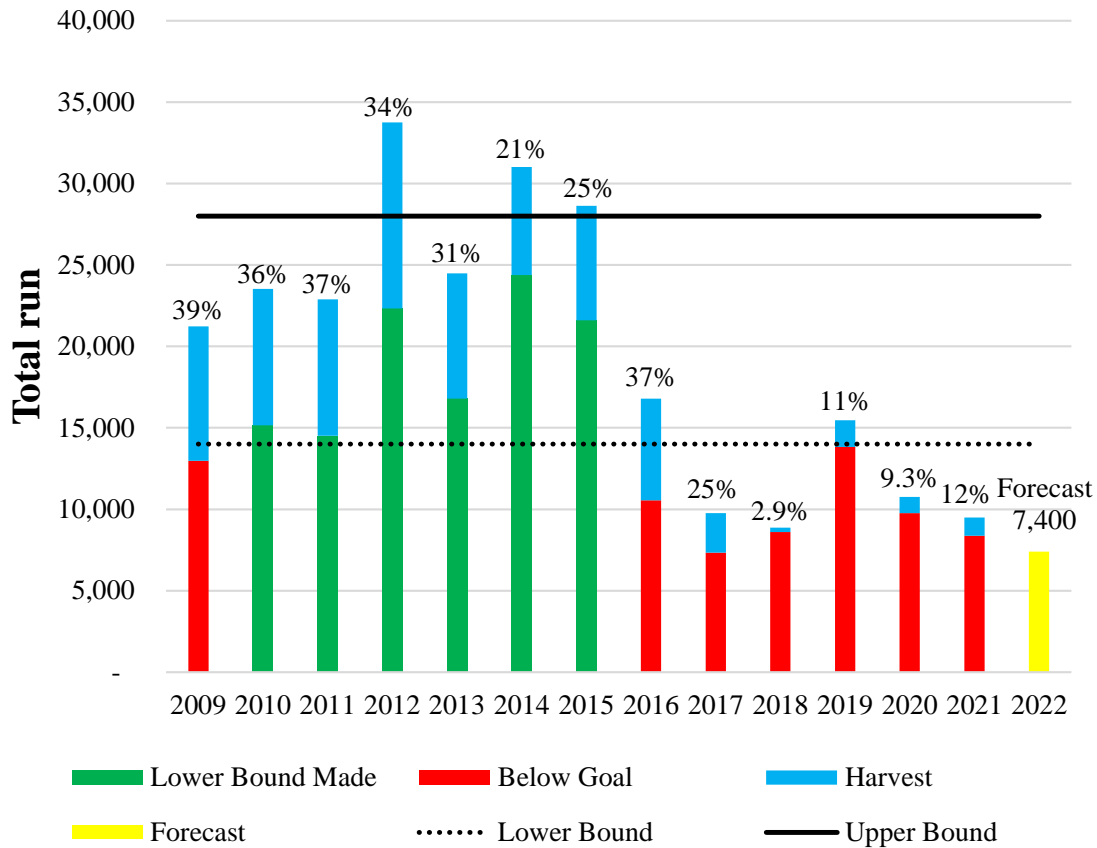
U . S .

CANADA

- Drift Gillnet
- Purse Seine
- Sport
- Troll

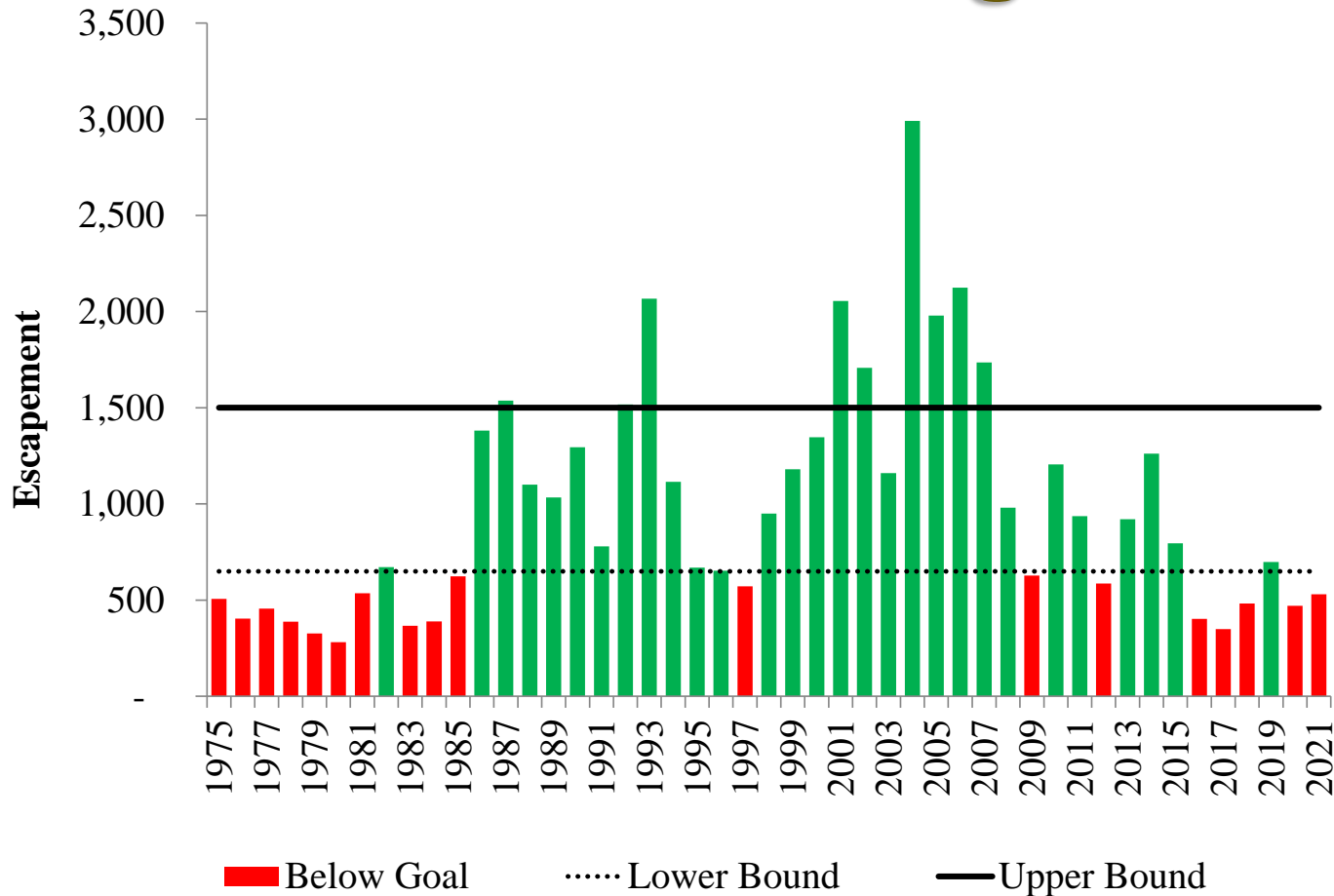
CWT recovery points randomly distributed within subdistricts, or within districts where subdistrict information is unavailable.

Stikine River King Salmon



Harvest, escapement, and run of Stikine River king salmon, 2009-2021, with the terminal run forecast for 2022. Harvest rate is shown as a percent for each year.

Andrew Creek King Salmon

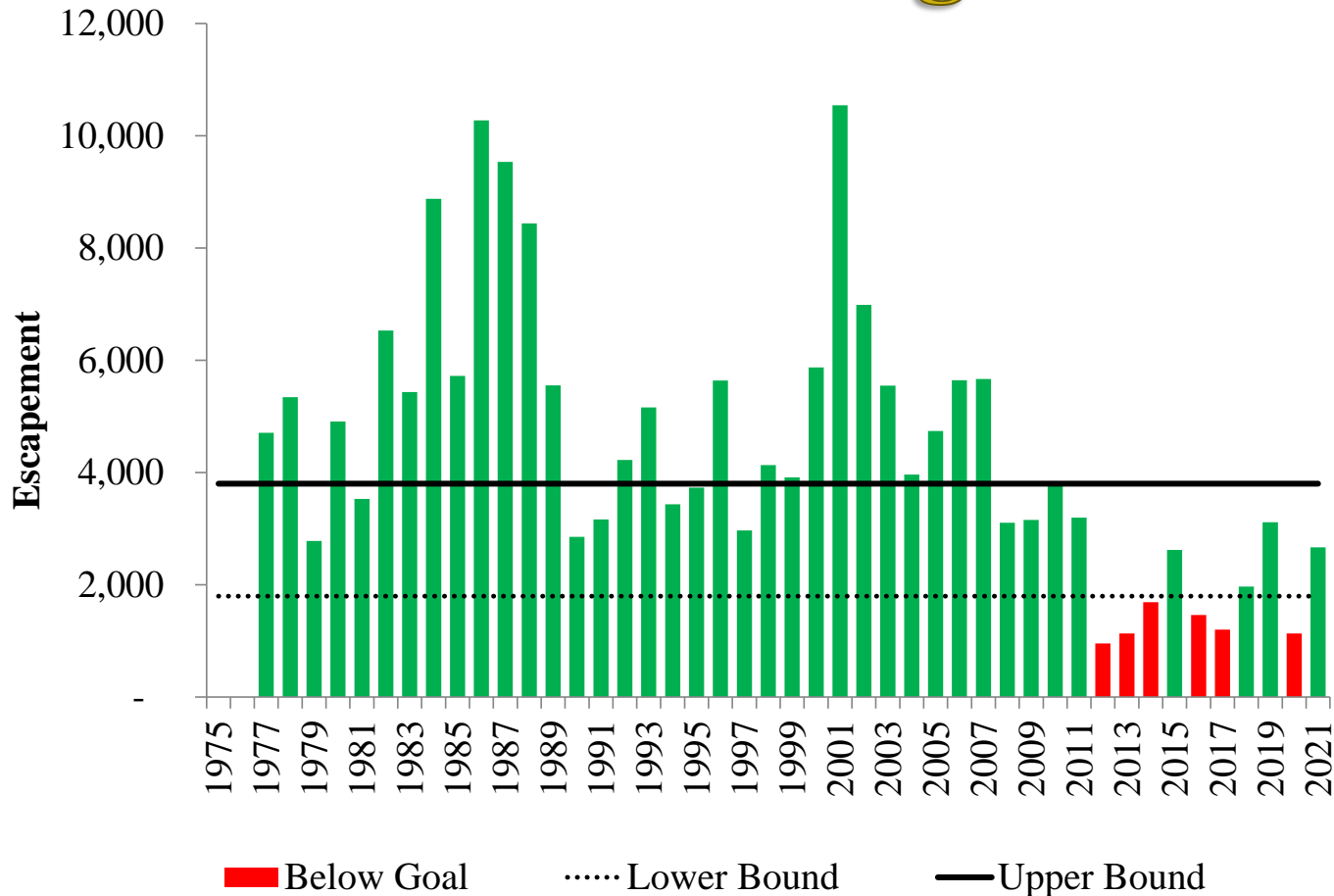


Designated a Stock of Management Concern at the October 2020 work session as escapements were below goal in 4 of 5 years, 2016 to 2020.

Andrew Creek King Salmon

- Inside rearing and available for harvest in Southeast throughout the year
- A weir was operated from 1976 to 1984; four years of concurrent weir and aerial and foot observer counts were used to ground truth the counts
- Stock used as a brood source in the Southeast enhancement program
- Harvest estimates are not available for this stock
- It is assumed that half of the spawning escapement is inriver by the first week of July

Unuk River King Salmon



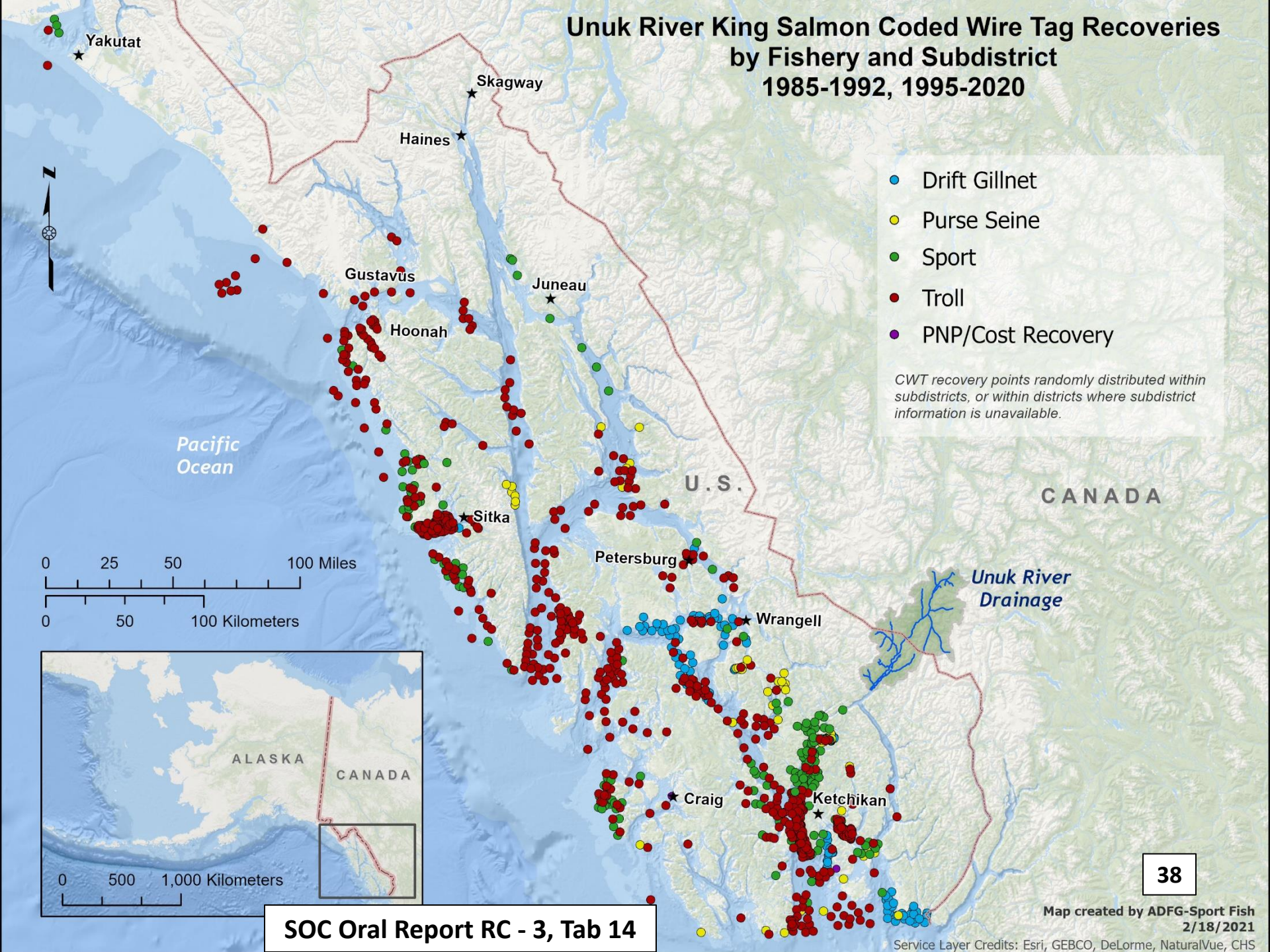
Designated a Stock of Management Concern at the October 2017 work session as escapements were below goal in 4 of 5 years, 2013 to 2017.

Recommended continuing designation at the October 2020 work session as escapements were below goal in 3 of 5 years, 2016 to 2020.

Unuk River King Salmon

- Fourth largest run of king salmon in Southeast Alaska
- Inside rearing and available for harvest in Southeast throughout the year
- Standardized aerial observer counts since 1977 and mark-recapture estimates of escapement (1997-2011) were used to ground truth the observer counts
- Around 3-18% of the juveniles are coded wire tagged and harvest is estimated using marine recoveries
- Detailed estimates of smolt abundance, juvenile overwinter survival, marine survival, and brood year return and exploitation rates
- Stock used as a brood source in the Southeast enhancement program
- Half the spawning escapement is inriver by July 10

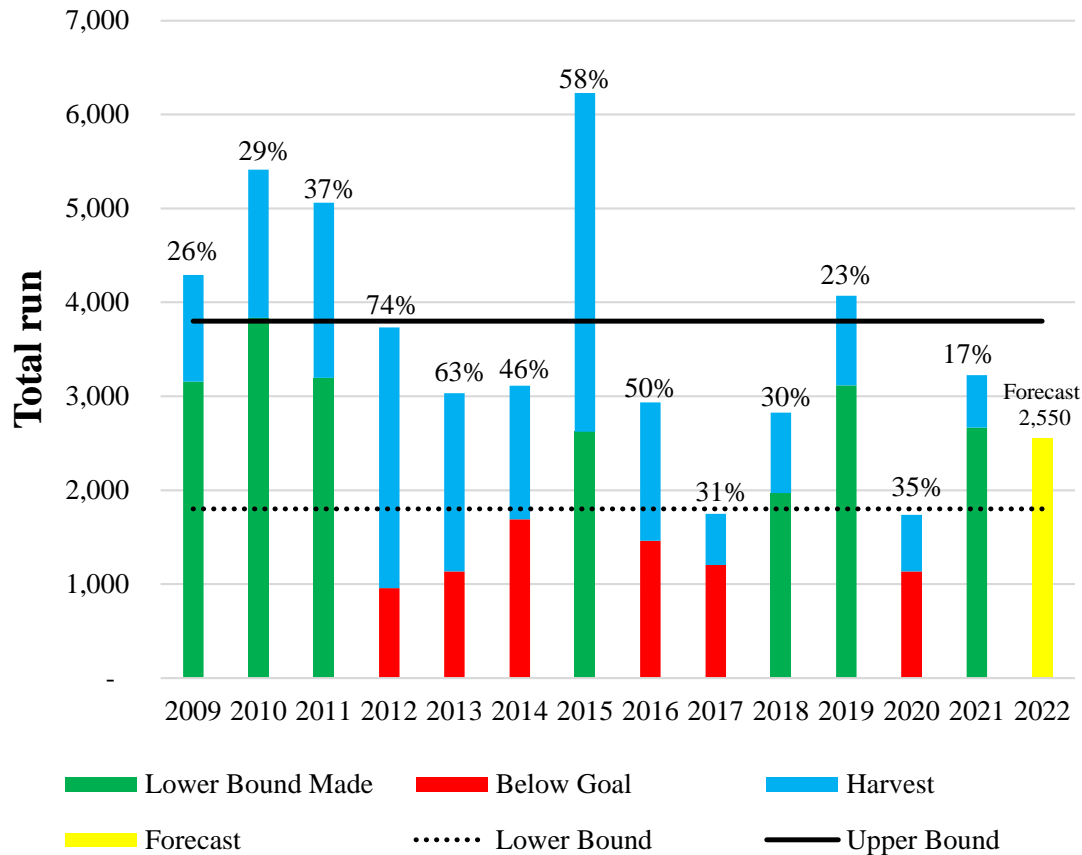
Unuk River King Salmon Coded Wire Tag Recoveries by Fishery and Subdistrict 1985-1992, 1995-2020



- Drift Gillnet
- Purse Seine
- Sport
- Troll
- PNP/Cost Recovery

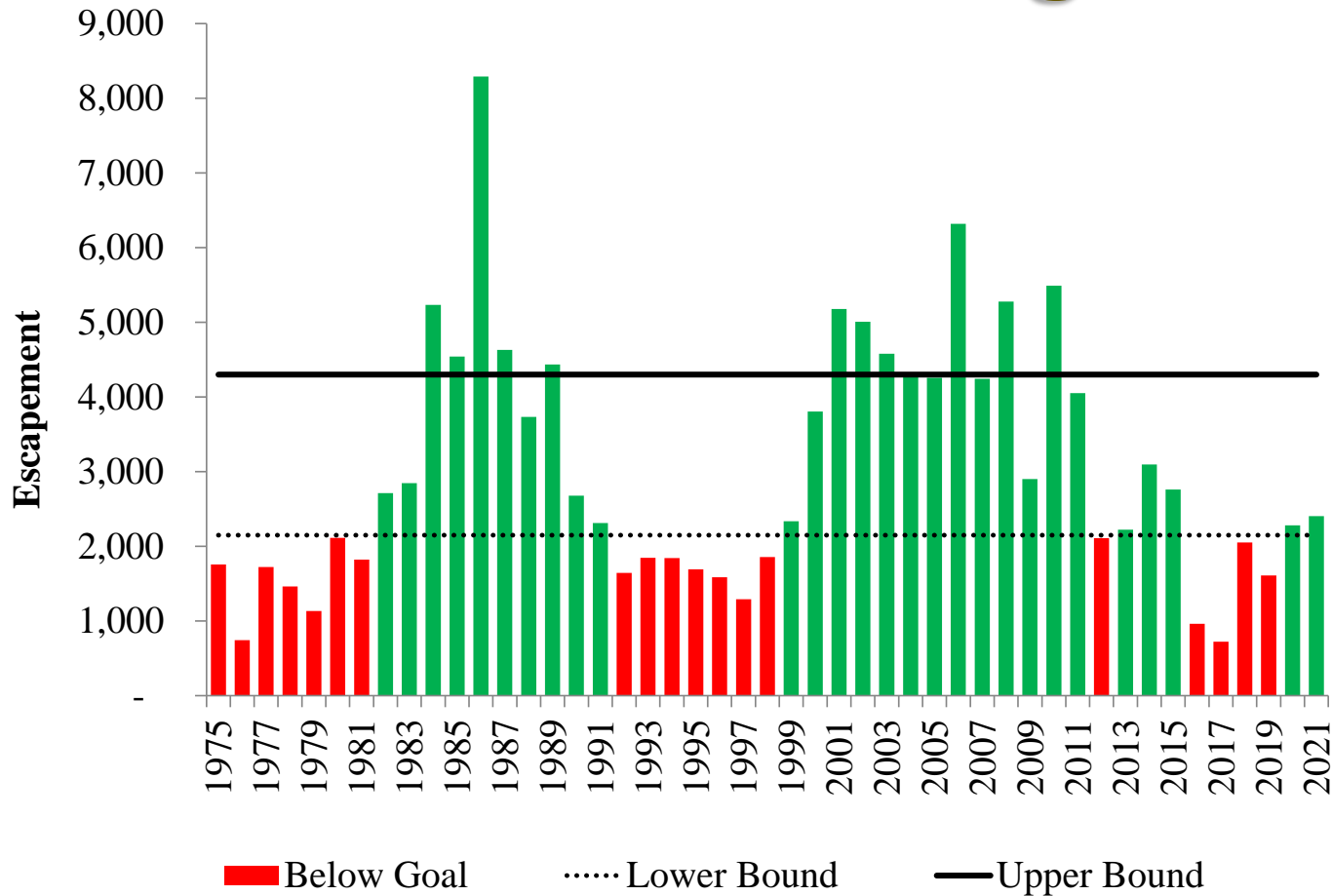
CWT recovery points randomly distributed within subdistricts, or within districts where subdistrict information is unavailable.

Unuk River King Salmon



Harvest, escapement, and run of Unuk River king salmon, 2009-2021, with the run forecast for 2022. Harvest rate is shown as a percent for each year.

Chickamin River King Salmon



Designated a Stock of Management Concern at the October 2020 work session as escapements were below goal in 4 of 5 years, 2016 to 2020.

Chickamin River King Salmon

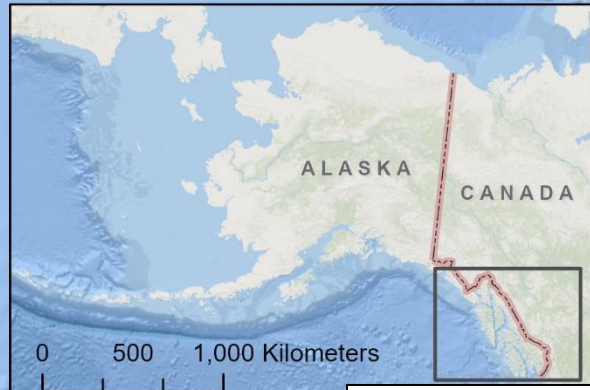
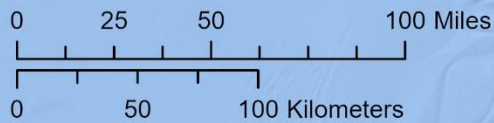
- Juvenile coded wire tagging studies occurred 1983 to 1988 and 2001 to 2007
- This work showed brood year exploitation rates ranged 22% to 41% and harvests were in the troll (53%), sport (31%), net (11%) and various terminal (5%) fisheries
- Stock used as a brood source in the Southeast enhancement program
- Half of the spawning escapement is inriver by mid-July

Chickamin River King Salmon Coded Wire Tag Recoveries by Fishery and Subdistrict 1985-1992, 2003-2011



- Drift Gillnet
- Purse Seine
- Sport
- Troll
- PNP/Cost Recovery

CWT recovery points randomly distributed within subdistricts, or within districts where subdistrict information is unavailable.



Three Action Plans for Consideration

- Northern Southeast Alaska King Salmon (Chilkat, Taku and King Salmon River Stocks) Stock Status and Action Plan, 2021 (RC6)
- Stikine River and Andrew Creek King Salmon Stock Status and Action Plan, 2021 (RC7)
- Unuk and Chickamin King Salmon Stock Status and Action Plan, 2021 (RC4)
- Goal of these plans is to rebuild the king salmon runs to consistently achieve escapements within the respective BEG ranges and to consistently provide harvestable yield

Conditions for Delisting or Reducing Restrictions

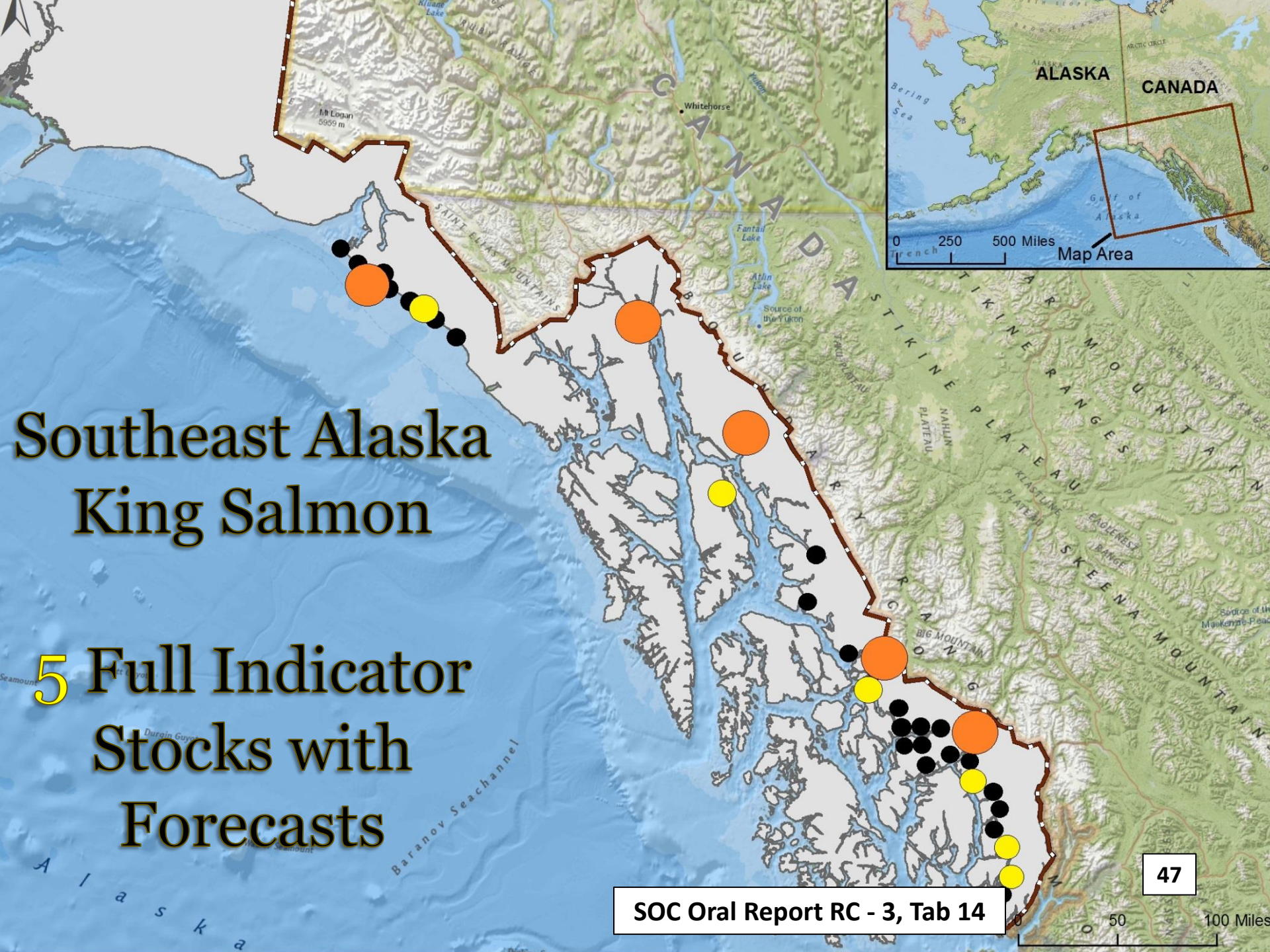
1. If the **lower bound of the BEG range is met or exceeded in 3 consecutive years or is met in 4 out of 6 consecutive years**, the department will recommend removing the stock as a stock of “management concern” at the first Southeast and Yakutat board meeting after this condition is met.
2. Management measures could be relaxed in specific areas or during specific time periods if updated stock composition and harvest data indicates areas and/or times where and/or when restrictions are no longer needed to ensure the BEG is met.

Conditions for Delisting or Reducing Restrictions

3. In the event **the upper bound of the BEG range is met or exceeded in 2 consecutive years**, management restrictions may be relaxed or set aside.
4. Should the Pacific Salmon Commission Transboundary Technical Committee determine that a harvestable surplus of **Stikine/Taku River king salmon** is available, directed king salmon fisheries in District 8/11 may occur pursuant to the annual Transboundary River management plan under provisions of the Pacific Salmon Treaty. Before implementing directed fisheries in District 8, Andrew Creek king salmon run size and escapement would have to be considered.

Alaska Board of Fisheries Regulatory Proposals Affecting King Salmon Stocks of Concern

- Chilkat, Taku and King Salmon River Stocks
 - Proposal 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 103, 111, 113, 114, 115, 116, 122, 123, 124, 125, 128, 135, 138, 139, 140, and 141
- Stikine River and Andrew Creek Stocks
 - Proposal 80, 81, 83, 84, 85, 86, 87, 88, 89, 91, 93, 94, 95, 115, 116, 118, and 155
- Unuk and Chickamin River Stocks
 - Proposal 83, 84, 85, 86, 87, 88, 91, 93, 94, 95, 96, and 155



Southeast Alaska King Salmon

5 Full Indicator
Stocks with
Forecasts

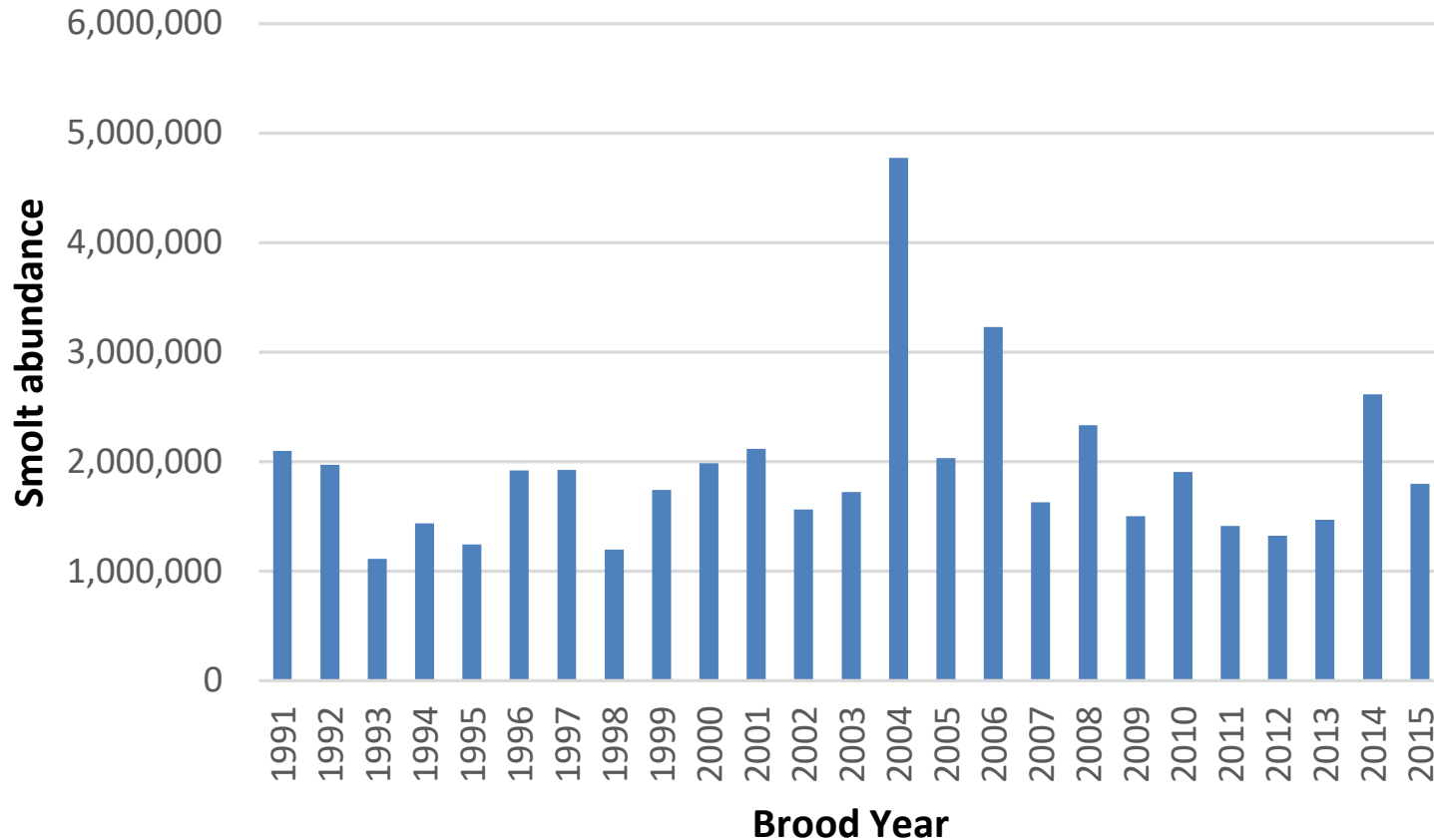
King Salmon 2022 Run Forecasts

Full

Indicator	Escapement goal			Run component
	Stock	Lower bound	Upper bound	
Situk	450	1,050	1,600	Total
Chilkat	1,750	3,500	1,550	Total
Taku	19,000	36,000	6,600	Terminal
Stikine	14,000	28,000	7,400	Terminal
Unuk	1,800	3,800	2,550	Total

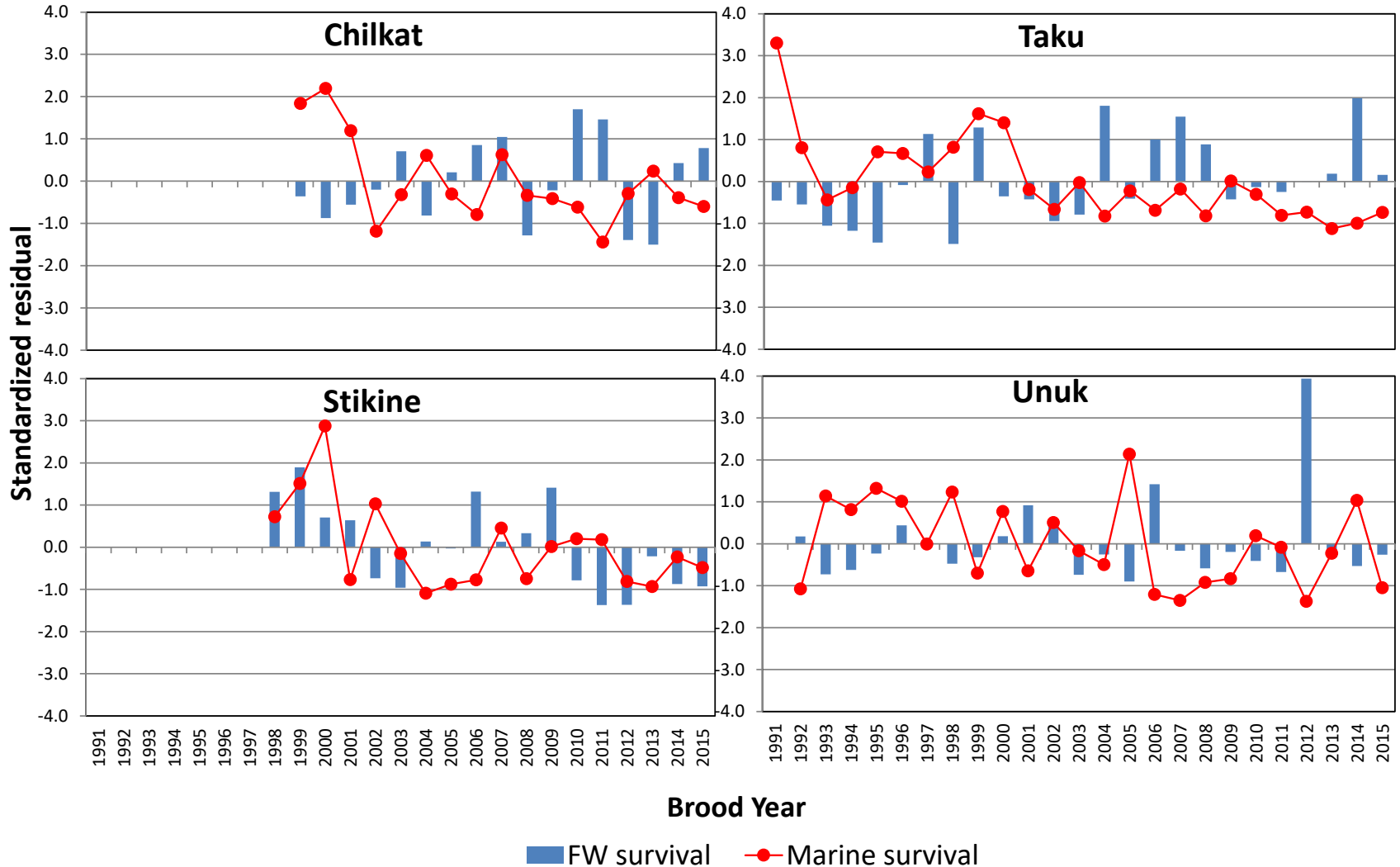
The forecast for the Situk is good, for the Unuk is below average, for the Chilkat is well below average and for the transboundary Taku and Stikine stocks are the worst on record. These run forecasts do not account for any harvest that might occur.

Freshwater Survival is Not the Problem



Taku River Smolt abundance

Marine Survival is the Culprit



Southeast King Salmon Escapements (2012-2021)

Stock	Goal		2017	2018	2019	2020	2021	Goal
	Lower	Upper						Missed
Situk	450	1,050	1,187	420	623	1,197	1,064	1
Alsek	3,500	5,300	1,762	4,312	6,400	5,308	5,616	1
Chilkat	1,750	3,500	1,173	873	2,028	3,180	2,038	2
Taku	19,000	36,000	8,214	7,271	11,558	15,593	10,806	5
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Chickamin	2,150	4,300	722	2,052	1,610	2,280	2,404	3
Blossom	500	1,400	341	1,087	557	515	170	2
Keta	550	1,300	903	1,662	1,041	668	707	0

Including 2021 escapements, the Chilkat stock has made the escapement goal in 3 consecutive years, achieving a condition listed in the Action Plan for delisting; however, the 2022 forecast is for continued poor production and conservative management actions should be continued

Questions?

